Geo Factsheet

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STILL HUNGRY and GETTING WORSE?

Introduction

This Factsheet explores the complex reasons behind the new food crisis, essentially caused by **rising demand** as developing nations such as China pass through the **nutrition transition**, whereby their people's diets change from basic grains and tubers to meat, dairy products and processed foods high in sugar and fat, against issues of **diminishing supply**. This has resulted in **rising food prices** which have had a global impact, which above all has affected the **world's poor**, who are concentrated in rural areas of sub-Saharan Africa.

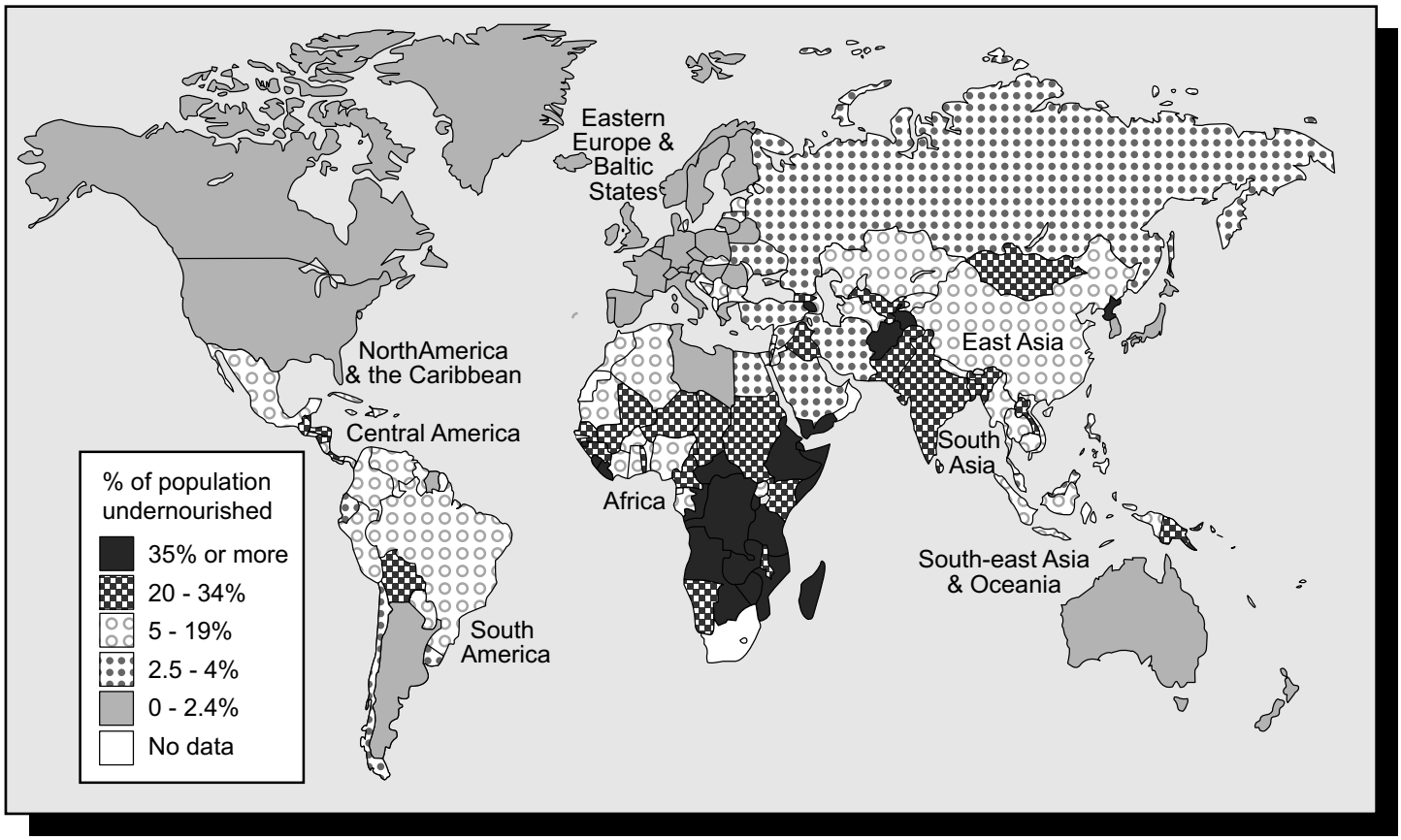
The Situation in 2005

Although around 850 million people were living with 'food insecurity' defined as an unreliability of food supply, i.e. hunger, overall the world had sufficient food to feed all its peoples. Technological advances in agriculture meant that more food was grown at lower costs and globalisation which led to improved communications and transport facilitated the movement of food over long distances at reasonable rates. There was clearly **therefore globally no food availability deficit** although localised famine did occur.

The main reason for hunger and nutritional deficiencies to persist was poverty. This leads to a **food entitlement deficit** whereby poor countries' communities and individuals cannot afford to buy the available food. These people are landless, frequently unemployed or employed at very low rates, living in households with little wage earning capacity, or as orphans.

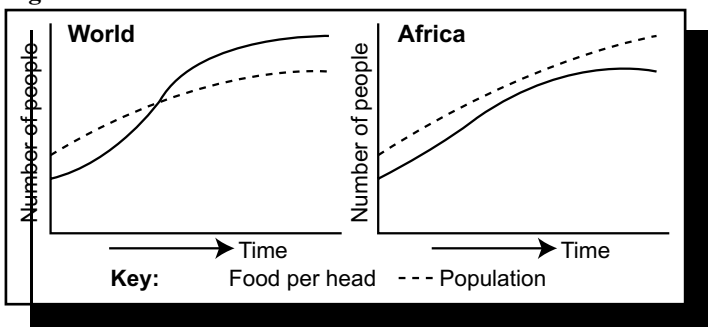
The map shows how the hunger hotspots are concentrated in Least Developed Countries (LDCs) especially in sub-Saharan Africa, and South Asia (over 96% of all hungry people). The rest (25 million) are found in former Soviet Union countries, and a small minority (9 million) in pockets of industrialised countries. At any one time transitory hunger hotspots caused by natural or human-made disasters could be added to this, with these areas being helped by **emergency aid**. The UN programme of food aid on average fed between 50-100 million each year.

Fig. 1 The hungry hotspots.



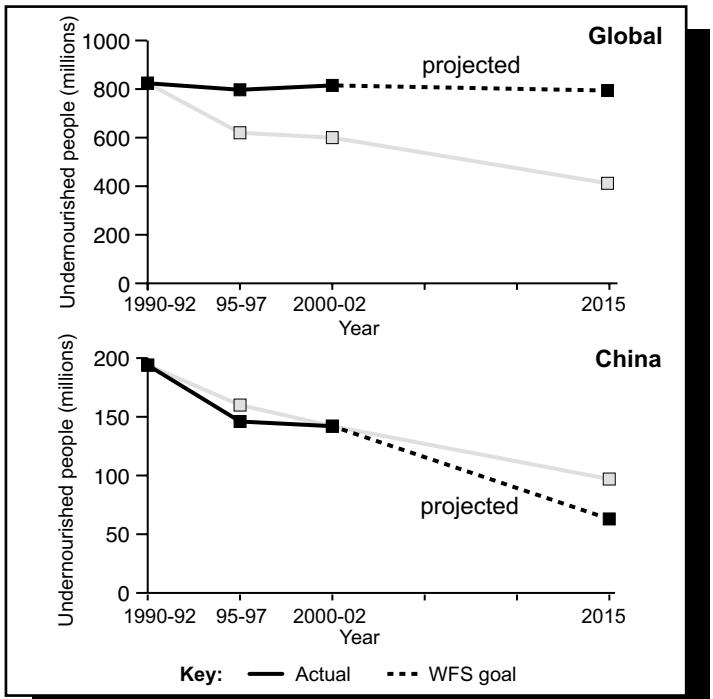
What is of more concern is that even in the good global situation of 2005, while numbers of food insecurity were generally falling, these were actually rising in sub-Saharan Africa and to a lesser extent in South Asia, by around 50 million. *Fig. 2* summarises the contrasting population and food supply situations between the World, and the continent of Africa.

Fig. 2



It also explains why progress towards meeting with World Summit goals of **food security** of halving food insecurity has been very slow, in spite of great success in countries such as China *(Fig. 3)*. At the root of the problem is **poverty**, which has a number of impacts summarised in *Box 1* below.

Fig. 3 Progress toward meeting the World Food Summit goal.



Box 1 The impact of poverty.

Poverty leads to:

- an inability to pay for food
- an inability to pay for agriculture innovation
- lack of funds to invest in rural development
- increased vulnerability to natural disasters
- a lack of capacity to adapt to climate change induced droughts
- poor farming practices leading to environmental/land degradation - identified as the key problem by Millennium Ecosystem Assessment
- escalating conflicts between groups of people for scarce resources
- lack of political empowerment resulting in corrupt governments
- inability to combat the effects of HIV/AIDS.

So in conclusion the statement more food yet more hunger applied, but the hunger was only concentrated in known hotspots.

How has the situation changed for the worse?

There are three key interrelated issues.

1. Threats to **food availability** which could lead to a decline in supply.
2. Rising **demands** for the existing food supplies which can again impact on **food prices**.
3. Increasing concern over diminished **food entitlement** as food prices rise in response to the new situations. In particular this impacts on the costs of **food aid** to the world's poorest people.

This is summed up by a senior FAO official of the UN:
"In an unforeseen and unprecedented shift, the world food supply is dwindling rapidly and food prices are soaring to record historic levels!"

After decades of expanding crop yields and falling or stable food prices, the last year has seen a sharp rise in nearly all food products. Demand is running away. The world has been consuming more than its produces. Stocks of grain (rice, wheat and maize) are down at levels not seen since the early 80s *(see Table 1)*.

Table 1 Global harvest.

Biggest producers of wheat	**Millions of tonnes**
EU	122
China	106
India	75
US	56
Russia	48
Biggest exporters	
US	32
Canada	15
Russia	23
EU	10
Argentina	10
Biggest importers	
Egypt	6.8
EU	6.5
Brazil	6.4
Japan	5.5
Indonesia	5.4
World production	**603**
Total trade	**104**
Consumption *(note deficit)*	**611**

Estimates for 2007 by International Grains Council.

Rising Food prices

The FAO food price index rose 40% during 2007-8, compared to an average of between 2-9% in the previous five years:

- Maize prices have risen 100%
- Wheat prices by 50%
- Rice by 20%
- Vegetables by 30%
- Pig prices by 50%
- Poultry between 10-25%
- Beef prices by 20%

All these rises contribute to food price led inflation up to 6% with many poor countries paying 25% more for imported food stuffs.

There are three factors which are pushing up food prices:

(1) Rising consumption

The appetite of fast growing nations such as India and China is increasing as economic booms are leading to rising standards of living. As the **nutrition transition** takes place, this leads to an ever increasing demand on cereals to feed livestock, to fuel Chinese and Indian demands for meat, dairy products and processed foods. To this can be added a rising population, especially in developing nations albeit at a decreasing rate.

(2) Climate Change

Climate change is particularly threatening food security in sub-Saharan Africa. Globally agriculture is highly adaptable to global warming (see section on GM crops and agriculture improvement) but in reality a complex situation exists. In the continent of Africa, reductions in rainfall reliability, increased risk of drought, more intense storms and subsequent soil erosion will particularly affect subsistence farmers who work so closely with the climate for farming success. In areas with widespread malnutrition (25% of the children under 5 years moderately or severely under weight) the problems are only likely to get worse. Climate change will have a wide range of effects, which will increase if the **tipping point** is exceeded. The **combination** of many features of this chronic hazard will have very damaging impacts on food supply.

(3) Competition from biofuels for land

There are a number of issues associated with the use of land for **biofuels**.

The appetite for bio fuels, which initially were seen as the saviour to the global warming crisis, as they cut down on the use of fossil fuels so saving on greenhouse gas emissions, has increased hugely. Essentially there are two groups of the so called first generation of **biofuels; biodiesels** usually made from soya beans or rapeseed (canola) which is added to conventional diesel, and **bioethanol** which is made from corn (maize in the USA and sugar cane in Brazil, 2005 production figures are shown in *Fig. 4*).

Whilst there is huge concern about the environmental damage and the impacts on biodiversity resulting from destruction of rainforests and wetland areas in countries such as Brazil or Indonesia to grow biofuels in the context of new food insecurity, it is the **loss of the land** for food crops and the subsequent rising prices caused by the lower amount of production of food which is the major concern. In the US the prime driver is not reducing greenhouse gases, but combating the rising price of oil – hence the dash for biofuels from corn.

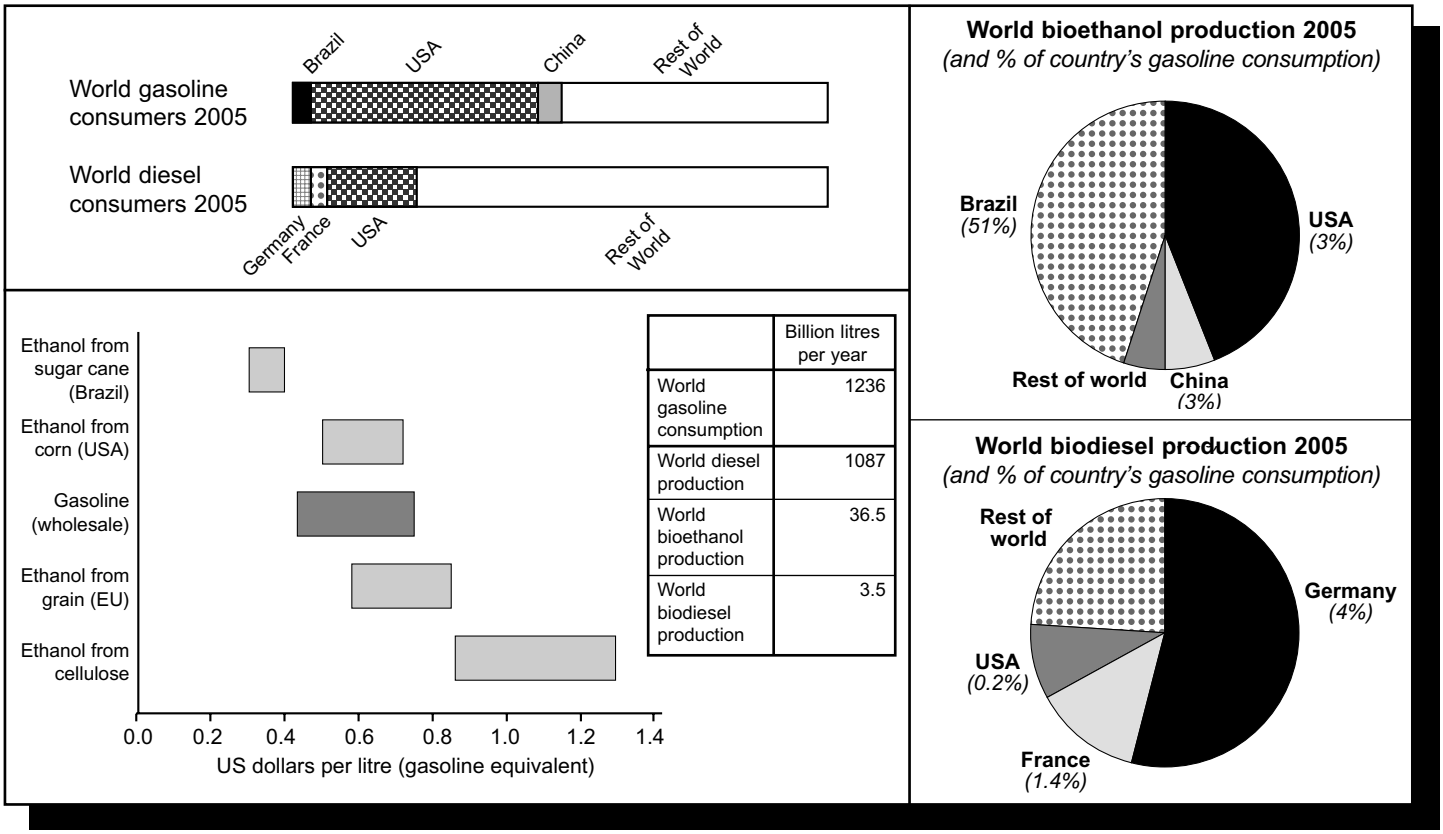
Even in the EU, which has set a target for 15% biofuels for transport by 2015, this would require more than 2/3rds of the currently cultivated land to be dedicated to biofuels. To put it in a world context, in 2005 about 1% of the world's available arable land was used for the production of biofuels, but this share could rise to meet biofuels targets to over 3%. As fossil fuel prices (oil and gas) rise this has driven some developing nations such as Uganda, Malawi and Mozambique to begin to develop biofuel crops, for home use, but in the case of Mozambique (with a small economy and low domestic needs) as a biofuel exporter. In some cases the drivers of change are TNC owned agri-businesses which the country has little control over.

In conclusion then the **food or fuel** debate is very important. Any diversion of land from food or feed production (growing amounts are required for the world's growing demand for meat and milk) will influence food prices, which were already under threat from climate change and rising consumption.

Globally the **'food mountains'** of the 90s have gone with stocks of cereals at record lows – even at deficit levels. This has resulted in food riots around the world – the Italians staged a pasta boycott day in September 2007 in response to a 7% increase in wheat prices. The Mexicans were in turmoil about the rising price of corn and its impact on tortillas, and in 2008 there was rioting in Indonesia about the cost of bread. For the World's poorest communities rising cereal prices will have a devastating effect.

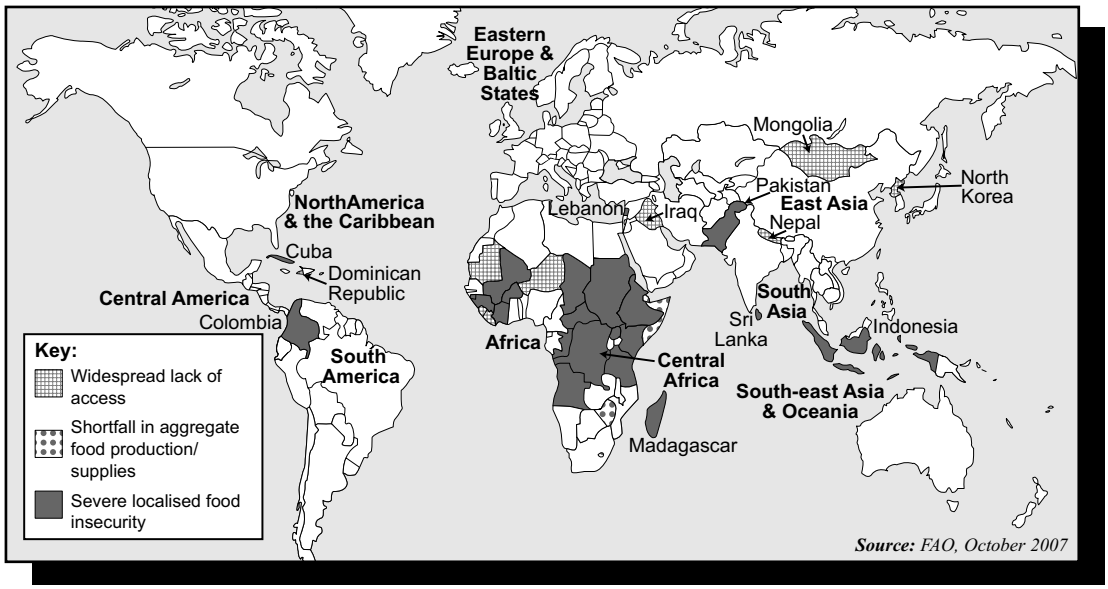
In Bangladesh for example a combination of Hurricane Sid and difficult economic circumstances meant that it had to ask for half a million tonnes of **food aid**. Worryingly rice is hard to buy at any price as the traditional exporters India, Vietnam and the Ukraine have cut exports. Equally the wheat supplier have been hit by severe droughts in SE Australia and the Mid West of USA.

Fig. 4



For BINGOs (Big International NGOs) and the UN carrying out feeding programmes, the price of Food Aid depending on the type of grain has tripled or quadrupled, which means they have to raise more money or provide less. The problem is disasters requiring emergency aid are increasing. *Fig. 5* shows the current situation of countries requiring external assistance to overcome food insecurity.

Fig. 5 Countries in crisis requiring external assistance 2007-08.



Are there solutions?

An optimist would see markets automatically adjust to shortages and higher prices make it more profitable to grow food crops again but the reality is far more complex.

(1) GM technology could be the answer. The TNCs such as Arcadia and Monsanto and also the Chinese government scientists are now working on a second generation of GM crops which will be drought tolerant and/or salt tolerant. They are also looking at strains of cereals which would use less fertiliser thus cutting down on nitrate pollution **and** lowering production costs. If the benefits could be seen, this may lessen the opposition to GM crops, although for rice and wheat there are still concerns about alien species and the impact of biodiversity. Promising developments include:

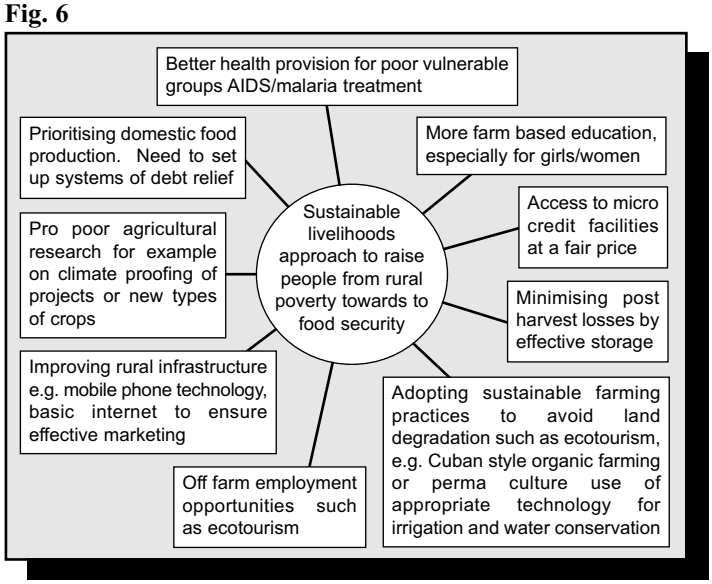
- drought resistant maize for US,
- wheat for drought stricken Australia,
- salt tolerant alfalfa,
- drought and salt tolerant rice in China.

All this would help adapt to the problems of climate change.

(2) A continued slow down in population growth especially in sub-Saharan Africa could ease pressures on the food market. Clearly pro poor programmes could speed this. Moreover extolling the health virtues as well as the environmental and economic benefits of vegetarianism could also free up more land for human food rather than animal feed.

(3) Progress could be made to help the subsistence farmers help themselves to develop sustainable livelihoods, thus lesson the need for food aid.

Fig. 6



However against this optimism…..

(1) The impact of climate change could get even worse and accelerate should mitigation strategies fail.

(2) Oil prices could rise still further increasing the cost of fertilisers and transport and making it even more profitable to grow biofuels on high quality arable land.

(3) Fish stocks could continue to decline. UNEP claimed in February 2008 they were in inexorable decline due to over fishing. This would put even more pressure especially on rice supplies in the Far East.

(4) Land degradation and soil erosion could increase still further thus rendering much of the high quality arable land infertile and putting pressure on farmers to either use more intensive methods on the remaining land, or farm new marginal areas.

The conclusion is:

"4 million more people join the ranks of the world's hungry each year, in spite of targets such as the Millennium Development goals. Currently we are facing the tightest food supplies in recent history. For the world's most vulnerable, food is simply being priced out of their reach."

Director of World Food Programme

Questions to consider

1. Draw a table with two headings (supply and demand) to summarise the reasons for the new food securty threat.
2. Indicate the evidence to explain why many experts claim the new food security crisis is a poor people crisis. Hint: FED
3. To what extent could the following help to solve the food security crisis:
   - fairer terms of trade?
   - new types of GM crops?
   - increased levels of aid, especially food aid?

Further research

- *Growing Fuel The Wrong Way, The Right Way*. National Geographic, October 2007.
- Scientific American special issue: *Feast and Famine*, September 2007
- New Scientists 5th January 2008. *Genes for Green*
- *Farmers World Networking Briefs*
- Geo Factsheet 205 *Global hunger: an update*
- Geo Factsheet 185 *Causes of Famine*
- *www.fao.org*

Acknowledgements

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